



# UNITED STATES PATENT AND TRADEMARK OFFICE

CK

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,755	02/24/2004	James Ibbetson	P0285US-7	2851
23935	7590	08/24/2006	EXAMINER	
KOPPEL, PATRICK & HEYBL 555 ST. CHARLES DRIVE SUITE 107 THOUSAND OAKS, CA 91360			PERRY, ANTHONY T	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/786,755	Applicant(s) IBBETSON ET AL.	
	Examiner Anthony T. Perry	Art Unit 2879	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 8-10, 12-25, and 27-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugimoto et al. (WO 03/010832).

EP 1,418,628 is from the same patent family as WO 03/010832 and is used for citing the appropriate teaches.

Regarding claim 1, Sugimoto teaches an emitter comprising: a light source (2) which emits a first spectrum of light and a conversion material region (3) formed separately from said light source and including conversion particles, said conversion material region positioned in proximity to said light source such that at least some of said light source light passes through said conversion material region, said conversion particles absorbing at least some of said light source light passing through said conversion material region and emitting a second spectrum of light (for example, see Fig. 17 and paragraphs 0006 and 0048).

Regarding claims 2-4, Sugimoto teaches light source (2) emits said first spectrum of light along a plurality of light paths extending through said conversion material region, each light path extending through a substantially equal amount of conversion particles and the conversion particles are distributed in said conversion material region such that said conversion particles

emit said second spectrum of light at a uniform color and intensity (for example see Fig. 17 and paragraphs 0006 and 0048).

Regarding claims 8-9, Sugimoto teaches the conversion material region comprises a phosphor loaded cap shaped to fit closely over one or more of the surfaces of said light source (2) such that said light source light passing through said phosphor cap passes through substantially the same amount of said conversion particles (see for example Fig. 19).

Regarding claim 10, Sugimoto teaches the phosphor loaded cap including a perforation (3a) for receiving an electrical contact (B) to said light source (2) (see for example Fig. 19).

Regarding claim 12, Sugimoto teaches the phosphor loaded cap formed separately from said light source and bonded proximate at least on of the surfaces of said light source (see for example Fig. 19).

Regarding claim 13, Sugimoto teaches the emitter further comprising a submount (1), said light source (2) mounted to said submount and said conversion material region (3) mounted to said submount (1) (see for example Fig. 17).

Regarding claim 14, Sugimoto teaches the conversion material region (3) having a hemispheric shaped and said light source (2) is arranged to emit light toward the base of and through said conversion material region (3) (see for example Fig. 17).

Regarding claim 15, Sugimoto teaches the light source (2) comprising a light emitting diode (for example, see paragraph 0028).

Regarding claim 16, the emitter inherently emits a spectrum of light that is a combination of said first and second spectrums of light.

Regarding claim 17, the conversion material region (3) is positioned in relation to said light source (2) such that there is a space between the two (for example, see Fig. 19).

Regarding claim 18, Sugimoto teaches an emitter comprising: light source (2) which emits a first spectrum of light; and a conversion material region (3) formed separately from said light source (2) and positioned proximate to said light source (2), said conversion material region (3) arranged to absorb at least some of the light emitted by said light source and re-emit light at a second spectrum of light, said emitter emitting a combination of said first and second spectrums of light in a uniform third spectrum of light (for example, see Fig. 17 and paragraph 0031).

Regarding claim 19, the conversion material region (3) is inherently separable from said position proximate to said light source.

Regarding claim 20, the emitter further comprises a submount (1), wherein said light source is positioned on a first surface of said submount and said conversion material region (3) positioned on a second surface of said submount (for example, see Fig. 17).

Regarding claim 21, Sugimoto teaches a submount (1) configured to reflect some of said first and second spectrums of light (for example see Fig. 5).

Regarding claim 22, the conversion material region (3) comprises a lens, said lens being bonded to said second surface of said submount (1), said second surface being above said first surface (for example, see Fig. 17).

Regarding claims 23-24, Sugimoto teaches the a reflective surface (1c) formed on a surface of the cup-shaped submount (1) to reflect light emitted by the light source increasing the efficiency of the emitter (for example, see Fig. 20). The surfaces inherently reflect some of the first and second spectrums of light to the lens (4).

Regarding claim 25, Sugimoto teaches the lens including a clear material region (4) and a conversion material region (3) (for example, see Fig. 17).

Regarding claims 27-31, Sugimoto teaches the conversion material region (3) comprising a phosphor loaded cap shaped to fit the shape of said light source (2) and is formed separately from said light source, bonded proximate to said light source such that there is a space (3a) between the two and a substantially uniform emission of said third spectrum of light with at least one of a desired color and intensity is produced (for example, see Figs. 15 and 17).

Regarding claims 32-34, Sugimoto teaches a method of fabricating an emitter, comprising: providing a light source (2); providing a separately formed conversion material region (3) which includes conversion particles distributed throughout said conversion material region so that said emitter emits at least one of the same color and intensity of light; and bonding said conversion material region proximate to said light source on a surface of a submount (1), said conversion material region (3) being positioned so that at least some of the light emitted from said light source at different angles flows through said conversion material region and through the substantially the same amount of conversion particles (for example see Fig. 17 and paragraphs 0006 and 0048).

Regarding claims 35-38, Sugimoto teaches a step of providing said conversion material region with a lens having an opening configured to at least partially surround said light source (2) which includes said conversion material region (3), wherein the step of bonding said conversion material region proximate to said light source includes a step of bonding said lens to one of said first surface and a second surface of a flat submount (1) .

Regarding claim 39, Sugimoto teaches the submount (1) includes a cup-shaped submount with a third side configured such that it reflects at least a portion of the light reemitted from said conversion material region (for example, Fig. 20).

Art Unit: 2879

Regarding claims 40-42, wherein the step of providing said conversion material region (3) includes a step of providing a phosphor loaded cap that includes said conversion material region (3) and is shaped to at least partially surround said light source (2) and is provided with a perforation (3a) for engaging a contact (B) (for example, see Fig. 15).

Claims 1 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Carey et al. (US 6,204,523).

Regarding claims 1, 6, and 7, Carey teaches an emitter comprising a light source (26) which emits a first spectrum of light and a conversion material region comprising a glass lens (20) that includes conversion particles and is formed separately from said light source and bonded proximate to the light source (26) such that at least some of the light source light passes through said conversion material region, said conversion particles absorbing at least some of the light and emitting a second spectrum of light (for example, see Fig. 2, col. 4, lines 31-37, and col. 5, lines 23-30).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 22, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al. (WO 03/010832).

Regarding claims 11 and 43, the embodiment shown in figures 15 and 19 shows conversion particles located in the conversion material region (3) located in the perforation (3a) of the phosphor load cap, but does not show light scattering particles at least partially filled in the

Art Unit: 2879

perforation (3a). However, in a separate embodiment Sugimoto teaches a layer including scattering particles located around the conversion material region so that light released from the conversion particles is scattered and the distribution of intensity is averaged (see paragraph 0056). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include such a light scattering layer including light scattering particles in the perforation (3a) around the conversion material region (3) of the embodiment shown in figures 15 and 19 in order to prevent color irregularities and provide a uniform color and intensity of light emitted from the emitter.

Regarding claim 22, the embodiment shown in figure 17 does not show lens-shaped conversion material region (3) located within the submount (1). However, in a separate embodiment Sugimoto teaches the submount includes a step portion that has the conversion material region (3) fitted and detachably attached to the step portion so that the conversion material region can be replaced (for example, see Fig. 5 and paragraph 0036). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the lens-shaped conversion material of figure 17 within in the submount on a step portion so that the conversion material can easily be replaced and the service life of the emitter can be extended.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto et al. (WO 03/010832) as applied to claim 1 above, and further in view of Duggal et al. (US 6,891,330).

Regarding claim 5, Sugimoto teaches a separate layer (8) including scattering particles which redirect at least some of the first and second spectrum of light (for example, see Fig. 29). Sugimoto does not specifically teach the scattering particles included in the conversion material



Art Unit: 2879

region (3). However, Duggal teaches scattering particles and conversion particles included in the same layer (see col. 10, lines 26-28). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the scattering particles of layer (8) of the Sugimoto reference in the conversion material region (3) so that only one layer is needed and the number of steps involved in the manufacturing of the emitter as well as the manufacturing time can be reduced.

#### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 2000-31548 discloses an emitter with the conversion material region (26b) within the submount (22) (for example, see Fig. 5).

Okazaki (US 6,653,661) discloses the conversion material region (8) with lens (7) located within the submount (4) (for example, see Fig. 11).

Fujii (US 6,919,586) teaches the cap having a perforation (24) for housing the wire on top of the LED (see Fig. 5).

JP 2001-148514 discloses the same embodiment of the present application shown in Figs. 9-10 (see Fig. 13(a) and 13(b)).

#### ***Response to Arguments***

Applicant's arguments filed 6/09/06 have been fully considered but they are not persuasive. The Examiner agrees that the Sugimoto should have been applied as a 102(e) due to the filing date of the provisional application, 60/451,067. However, the Examiner notes that the rejection with regards to how the prior art is applied has not been changed, and therefore the finality of the rejection is proper.

Applicant's arguments with respect to the 102(b) rejection of claims 1, 6, and 7 as being anticipated by Carey, have been fully considered but are not persuasive. When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be enabled/operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. In re Sasse, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). The Examiner notes that no facts have been provided by the Applicant rebutting the presumption of operability/enableness, just spurious case law excerpts. It is the view of the Examiner that one of ordinary skill in the art would know how to provide phosphors in the encapsulate, since it is well known in the art to provide phosphor particles within a resin layer.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Art Unit: 2879


### Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (571) 272-2459. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ASHOK PATEL  
PRIMARY EXAMINER

  
Anthony Perry  
Patent Examiner  
Art Unit 2879  
August 21, 2006